Status of the HIV/AIDS Epidemic in Michigan, 2003

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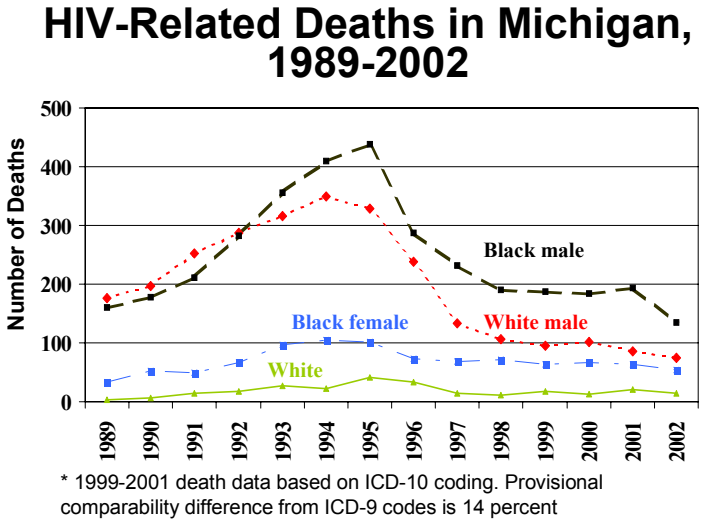
Global and National Overview

An estimated 5 million new HIV infections and 3 million AIDS deaths occurred during 2003 worldwide, bringing the total persons infected with HIV to 40 million. There have been a cumulative total of 31 million deaths since the beginning of the epidemic. About three-quarters of new cases and deaths were in Sub-Saharan Africa, where transmission is predominately heterosexual (1).

The number of new diagnoses of HIV/AIDS per year, in the 30 areas of the U.S. with confidential-name-based HIV infection reporting in place since 1998, increased steadily from 1999 to 2002 to about 26,500 new HIV cases in 2002. The number of AIDS deaths per year in all 50 states and territories declined to about 16,400 in 2002. Through December 2002, 859,000 adult/adolescents in all 50 states, territories, and Puerto Rico had been reported as having AIDS; of these, 501,669 (58%) had died (2).



Michigan HIV-related Deaths Decline

The number of HIV-related deaths declined significantly in 1996 and 1997, likely due to effective treatments that prolong life but do not eliminate HIV infection. From 1998-2002, however, the number of HIV-related deaths did not decline significantly. There was also no change in the proportion of deaths in any of the race/sex groups. From 2001 to 2002, there was a 30% decline in the number of deaths in black males but it was statistically non-significant.

Of the 286 HIV-related deaths in 2002, there were 135 (47%) deaths in black males, 75 (26%) deaths in white males, 54 (19%) deaths in black females, 14 (5%) deaths in white females, and 8 (3%) other. These proportions compare with the 4,362 (41%) black males, 3,317 (32%) white males, 1,748 (17%) black females, and 521 (5%) white females living with HIV or AIDS in Michigan as of January 1, 2004.

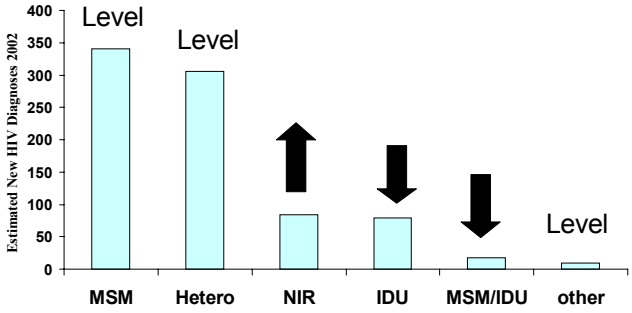
Trends in New Diagnoses of HIV Infection in Michigan, 1998-2002

Methods: To evaluate trends over time, we estimated the number of persons newly diagnosed with HIV infection each year and determined if there was a statistically significant change from 1998 through 2002. Numbers are estimated by adjusting the number of reported cases for people diagnosed in 1998-2002 for those who may not have been reported to the health department by January 1, 2004. This report is the first time this adjustment was based on only Michigan reporting patterns. Previously, adjustments were made using multi-state regional data. The date of new HIV *diagnosis* does not tell us when persons were first *infected*, because their HIV diagnosis may take place months or years after infection. However, this is the best current measure of how fast the epidemic is spreading among different populations. Over this time period No Identifiable Risk (NIR) cases were also redistributed to other risk categories based on past patterns of NIR reclassification.

Overall: The number of persons newly diagnosed with HIV each year was roughly level at about 900 cases between 1998 and 2002. These new diagnoses included persons who learned of their HIV infection status after developing symptoms of AIDS. Each year, there are more new diagnoses of HIV infection than deaths. Therefore, the reported number of persons living with HIV/AIDS in Michigan is increasing. MDCH estimates that 16,200 residents are living with HIV infection in Michigan (including those with AIDS).

Risk Behaviors for HIV Infection, 1998-2002: The proportion of persons diagnosed each year with HIV infection between 1998 and 2002 decreased significantly in IDUs from 16% to 9% (143 to 79 cases) and MSM/IDUs from 4% to 2% (32 to 17 cases) and increased significantly in the No Identifiable Risks (NIRs) from 6% to 10% (52 to 84 cases). Before adjusting cases for those reported without risk we expect cases diagnosed and reported more recently to be less likely to have a known mode of transmission. However, since these data were adjusted for this trend, the fact that we still see a significant increase in the proportion of NIRs means that this increase cannot be attributed to this expected pattern in risk classification.

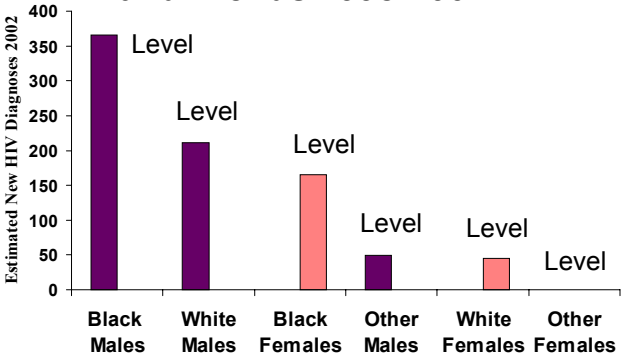
Number of New HIV Diagnoses in 2002, and Trends 1998-2002



Of the 836 new HIV infections diagnosed in 2002, there were 341 (41%) diagnoses in MSM, 306 (37%) among heterosexuals, 84 (10%) among NIRs, 79 (9%) among IDUs, 17 (2%) among MSM/IDUs, and 9 (1%) among persons with other risks. This year the heterosexual category is made up of two subgroups: 'high risk' heterosexuals and 'presumed' heterosexuals. A 'high risk' heterosexual is someone who had a partner that was IDU, bisexual (for females), a recipient of HIV infected blood, or known to be infected with HIV. A 'presumed' heterosexual is someone who had heterosexual sex as their only risk but their partner's risk is unknown. This is the first year we included "presumed" heterosexuals with the "high risk" heterosexuals in one category. This explains why the heterosexual category makes up a larger percentage of cases compared to previous trend analysis documents. Other risks include transmission from blood products and perinatal exposures. Less than 1 percent of diagnoses were among persons who first acquired infection from blood products received either before 1985 in the U.S. or in other countries. Less than 1 percent of diagnoses were among infants born to HIV-infected mothers.

Race and Sex 1998-2002: The proportion of persons diagnosed each year with HIV infection between 1998 and 2002 did not change significantly in any of the race/sex groups. In 2002, there were 366 (44%) diagnoses in black males, 211 (25%) in white males, 165 (20%) in black females, 49 (6%) in non-white/non-black males, 45 (5%) in white females, and 0 in non-white/non-black females. Although the trend in new HIV infections among blacks is level, they are still impacted disproportionate to their numbers in the population. Black males and females make up 14 percent of the general population of Michigan but make up 58% of persons living with HIV infection.

Number of New HIV Diagnoses in 2002, and Trends 1998-2002



Age at HIV Diagnoses 1998-2002: The proportion of persons diagnosed each year with HIV infection only changed significantly among those infected at 20-24 years of age from 8% to 10% (72 to 86 cases). In 2002, there were 8 (1%) persons infected at 0-12 years of age, 26 (3%) 13-19 years, 86 (10%) 20-24 years, 263 (31%) 25-34 years, 262 (30%) 35-44 years, and 151 (18%) 45+ years. In addition, 39 (5%) cases were missing an age at HIV diagnoses.

Residence 1998-2002: The proportion of new HIV diagnoses is unchanged across different geographic areas of Michigan. About two-thirds of new diagnoses each year are among residents of southeast Michigan (Wayne, Oakland, Macomb, Monroe, and St. Clair counties). One third are diagnosed among residents of the rest of the state.

Concurrent HIV and AIDS Diagnosis, 1998-2002: Among persons newly diagnosed with HIV the percentage who also were diagnosed concurrently with AIDS declined significantly between 1998 and 2002 from 29% to 24% (260 to 200 cases). The proportion of white males concurrently diagnosed declined significantly from 37% to 22% (84 to 47 cases), while the proportion of black males, black females, non-white/non-black males, and white females did not change significantly from 1998 to 2002. In 2002, there were 97 (27%) simultaneous diagnoses in black males, 29 (18%) in black females, 16 (33%) in non-white/non-black males, 12 (24%) in white females, and 0 in non-white/non-black females. Every concurrent diagnosis represents a failure to start treatment early. Persons who are unaware of their HIV infection cannot benefit from antiretroviral therapy and have a poorer prognosis than those diagnosed early in the disease course. They are also not accessible for secondary prevention.

Trends in New Diagnoses of AIDS in Michigan, 1998-2002

New AIDS cases were statistically level at about 600 persons annually between 1998 and 2002. Among persons diagnosed with AIDS, the percentage for whom this diagnosis was also their initial HIV diagnosis was an average of 40% of the AIDS cases. In order to decrease the number of new AIDS cases, we need to continue efforts to get infected persons tested and into early care. In addition, treatments will need to become more effective and work for longer periods of time.

Conclusions

HIV mortality and the number of new HIV infections have not changed significantly over the last five years. However, because there are still more new HIV diagnoses each year than deaths among HIV-infected persons, the total number of persons living with HIV infection is increasing.

Michigan residents with HIV infection continue to be predominantly men who have sex with men (MSM), black, aged 25-44 at time of diagnosis, and/or residents of Southeast Michigan. When 'presumed heterosexuals' are included in the heterosexual category, the proportion with heterosexually acquired infection is almost equal to the number infected through MSM. The proportions of new diagnoses of HIV infection have increased significantly over the past few years among NIR's and 20-24 year olds but have decreased significantly in IDU's and MSM/IDU's.

From 1998-2002, approximately 27 percent of persons newly diagnosed with HIV infection were also diagnosed with AIDS at the same time, with men being diagnosed with HIV and AIDS concurrently more frequently than women. The proportion of new HIV infections diagnosed at the same time as AIDS decreased significantly in white males but did not change significantly in any other race/sex group.

References:

1. Joint United Nations Programme on HIV/AIDS. ***AIDS epidemic update: December 2003.*** Available at: http://www.unaids.org/resources/publications/Corporate Publications.pdf
2. Centers for Disease Control and Prevention, ***HIV/AIDS Surveillance Report***, Volume 14, October 2003. Available at http://www.cdc.gov/hiv/stats/hasrlink.htm